

REMARKS

The Examiner has rejected claims 1, 3, 6-12, 14, and 17-20 under 35 U.S.C. §103(a) as obvious in view of Fukuchi et al. (U.S. 5,908,019 in combination with Moraal et al. (U.S. 6,304,815). The Examiner has objected to claims 4 and 13 as being dependent on a rejected claim, but states that the claims would be allowable if rewritten in independent form.

Applicants have amended claims 9 and 17 to include the limitations shown in claims 10 and 18, respectively. Applicants have canceled claims 10 and 18. Currently pending in the case are claims 1-4, 6-9, 11-17, and 19-20.

Applicants thank the Examiner for a careful review.

The Examiner has stated that: "Fukuchi fails to disclose to reduce an intake manifold pressure to a target pressure. Moraal teaches that it is conventional in the art, to throttle an [air] intake valve of the engine to reduce an intake manifold pressure to a target pressure." Applicants traverse that it is proper to combine the two references, which will be discussed in more detail below.

Before discussing the merits of combining the two references, Applicants discuss the elements discussed in Fukuchi, et al. and Moraal, et al. surrounding the throttle valve. Fukuchi, et al. describe an "intake air amount control system including a bypass passage bypassing the throttle valve, an intake air amount control valve arranged in the bypass passage for controlling an amount of air supplied to the intake passage at a location downstream of the throttle valve, and control means for controlling the intake air amount control valve in dependence on operative states of the electric devices," column 2, lines 1-7. Moraal, et al. discuss an intake throttle. Applicants submit that either system has the capability of adjusting the air flow to the engine. Fukuchi, et al. discuss: "controlling an amount of air supplied to the intake passage" in column 2, lines 4-5. Applicants' claim 1 shows: "throttling an air intake of the engine to reduce an intake manifold pressure to a target pressure." Applicants submit that by throttling, whether by a simple throttle valve or by a combination of a throttle valve and an air bypass valve, that by closing the throttle and/or the bypass valve that the amount of air supplied to the engine is decreased and the intake manifold pressure also decreases (meaning that there is greater pressure drop across the valve system). Conversely, when the throttle and/or bypass valve are opened, the amount of air supplied to the engine increases and the intake manifold pressure increases. The two quantities,

amount of air supplied and intake manifold pressure, are coupled. One cannot increase the amount of air supplied without also increasing the intake manifold pressure and vice versa.

Fukuchi, et al. discuss the intake air amount control system extensively in column 2, lines 1-65. Fukuchi, et al. give numerous instructions about how the control means for the intake air amount control system is to be controlled, as in the following examples:

Lines 6-8: in dependence on operative states of the electric devices when the engine is in a predetermined operation condition...

Lines 10-13: the control means controls the intake air amount control valve by the use of a correction amount dependent on an operative state of the electrically-heated catalyzer.

Lines 22-24: the control means sets the correction amount to a value dependent on the rotational speed of the engine...

Lines 27-28: the correction amount is set to a smaller value as the rotational speed of the engine is higher.

There are many other references for controlling the intake air amount described in column 2 of Fukuchi et al. besides those listed above. However, none of the methods described by Fukuchi et al. discuss controlling the air to attain a target intake pressure.

Or, alternatively, using the language of Fukuchi et al., none of the methods discuss controlling the air to attain a target amount of air supplied. Because Fukuchi et al. prescribe very specific ways for controlling the air bypass valve to provide a desired amount of air supplied to the engine, Fukuchi, et al. cannot possibly look to Moraal et al. to, as the Examiner states: "throttle an intake valve of the engine to reduce an intake manifold pressure to a target pressure." Fukuchi, et al. provides no motivation to look to Moraal et al. for controlling the throttle valve because Fukuchi, et al. already provides detailed information about how to control the throttle valve/bypass valve.

Even if Fukuchi et al. and Moraal et al. were properly combined, the resulting invention would provide ambiguous information as to how to control the throttle valve/bypass valve system. Would one control the valve according to the prescription of Fukuchi et al. or according to Moraal et al?

Applicants submit that because it is improper to combine Fukuchi et al. and Moraal et al. and further because the combination of Fukuchi et al. and Moraal et al. do not show Applicants' invention, that the rejections to independent claims 1, 9, and 17,

all of which contain a limitation in which the throttle valve is closed to attain a target intake manifold pressure, be withdrawn. Furthermore, claims 2-4, 6-8, 11-16, and 19-20, which depend from one of claims 1, 9, and 17 should also be in allowable form and such allowance is earnestly solicited.

No other art is cited in the Office Action. Based on the foregoing comments, the above-identified application is believed to be in condition for allowance, and such allowance is courteously solicited. If any further amendment is necessary to advance prosecution and place this case in allowable condition, the Examiner is courteously requested to contact the undersigned by fax or telephone at the number listed below.

Please charge any cost incurred in the filing of this Amendment, along with any other costs, to Deposit Account 06-1510. If there are insufficient funds in this account, please charge the fees to Deposit Account No.06-1505.

Respectfully submitted,



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